ARABIC PHONETIC MODELING FROM SPEECH RECOGNITION PERSPECTIVE

A report submitted to the Postgraduate Studies College of Arts and Sciences

in partial fulfillment of the requirements for the degree

Master of Science (Information and Communication Technology)

Universiti Utara Malaysia

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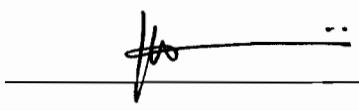
(Signature) : 

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Abstract

The Arabic language is a collection of varieties, among which Modern Standard Arabic (MSA) has a special case, because it is the formal language of media, culture, and education in the Arab world. Other varieties are the informal spoken dialects which are the medium of communication of everyday life. Substantial differences between the two varieties can be found in terms of phonology, morphology, lexical choice, and syntax. The main purpose of this study is to model the Libyan Arabic dialects for speech recognition. Specifically, it attempts to propose a Libyan Arabic dialect-influenced phonetic modeling for use of ASR.

Keywords: Libyan speech recognition, automatic speech recognition, dialect, phonetic modeling.

Acknowledgement

Praise be to ALLAH for helping me to accomplish this humble study. Also, my thanks to ALLAH who has seen me through to this level in my academic achievement, I would like to seize this opportunity to extend my gratitude to ***Mrs.Husniza Binti Husni*** *for kindly supervising this study. Her priceless instruction and guidness had great role in the accomplishment of this report, my evaluator for his suggestions and help. I would like also to thank all my instructors in the College of Arts and Sciences in the University Utara Malaysia (UUM) for their support.*

Thank you UUM

Esmaeil M.A.Albakoosh

25th June, 2010

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter primarily presents the explanation of the study background, problem statement, and the scope in which the study directions follow to achieve the study objectives and aims, the study objective is also explained.

1.1 Background

Arabic language can be considered to have two main varieties, the standard (Fusha) and colloquial variety. Standard variety can also be subdivided into two major forms: the classical Arabic and the Modern Standard Arabic (MSA). Colloquial Arabic is the spoken variety among most Arab speakers; Arab countries include many colloquial forms that range in differences from the (MSA) depending on regional boundaries. The presence of colloquial variety and standard variety (Fusha) within the same region is referred to as 'diglossic,' denoting the 'existence of a higher (Standard variety) and a lower register (Colloquial variety) used in semi-exclusive contexts' (Palmer, 2008, p. 83). Colloquial Arabic is the most widely used varieties in the Arab World in daily life environments.

Despite the presence of differences between these regional varieties, there is a common feature that those varieties share some similarities on the acoustic and language levels. A recent study on Arabic speech recognition has noted that "research done in the area of automatic speech recognition is very limited compared to other same rank

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